The Use of Interscalene Nerve Blocks in the Management of Brachioradial Pruritus: A Case Report

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Introduction

Brachioradial pruritus (BRP) presents with localized pruritus involving the proximal dorsolateral forearm. Symptoms may be intermittent, unilateral or bilateral, and in some cases may extend to the upper arm, shoulder, neck, or upper trunk.

The pathogenesis of BRP is not well understood. Current theories suggest cervical nerve root impingement at the levels of C5 to C8 as a predisposing factor and solar radiation as an exacerbating factor.

The interscalene block (ISB) anesthetizes the brachial plexus at the level of the nerve roots, and is commonly used for surgery of the upper arm, shoulder, and neck.

The ISB targets the ventral rami of C5 and C6 nerve roots which form the superior trunk of the brachial plexus, and usually spreads to C7. The C5 and C6 nerve roots can be found in the interscalene groove between the middle and anterior scalene muscles at the level of the sixth cervical vertebra, which is approximately at the level of the cricoid cartilage.

Case Presentation

We present the case of a 58-year-old, 135lb Caucasian female who works as a radiologic technologist that had been experiencing severe pruritus and blistering of her bilateral proximal arms for 15 years. During this time she received several dermatological diagnoses for which she tried oral antihistamines and topicals including capsaicin, hydrocortisone and lidocaine with no improvement. The symptoms became more frequent and increased in severity, severely impacting her daily life. At this point she sought out a second opinion with pain management. Physical exam demonstrated bilateral shoulder abduction 4/5 strength that was pain limited and allodynia with erythema throughout her bilateral upper extremities. Cervical MRI was unremarkable. She then underwent a C5 cervical epidural steroid injection without relief. An interscalene nerve block was recommended for a diagnosis of BRP. She first underwent an anatomically guided right interscalene nerve block with a 5cc bupivacaine and triamcinolone injectate; noting 90% relief, lasting 16 weeks. She then underwent a left interscalene nerve block; noting 40% relief, lasting 6 weeks. Lastly, she underwent a right interscalene nerve block, noting 100% sustained relief. There has been no reported recurrence of symptoms one year after the last injection with no plan for further injections at this time.

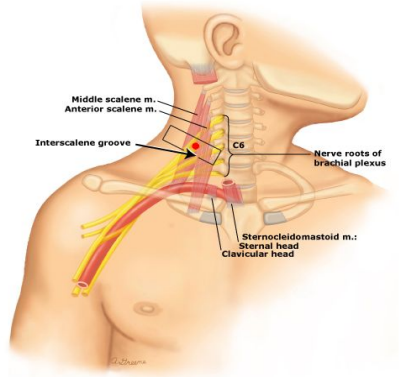

Figure 1. The sternal notch, sternal and clavicular heads of sternocleidomastoid muscle, and clavicle are identified and marked. The groove between the anterior and middle scalene muscles is palpated. The needle insertion site is approximated by the red dot.

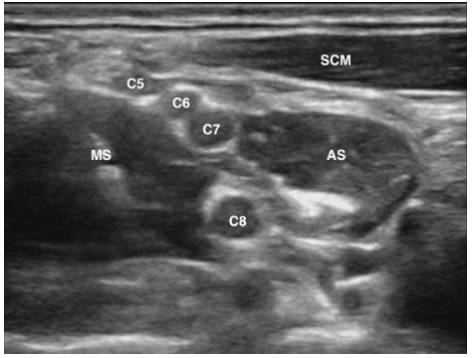

Figure 2. Ultrasound imaging demonstrating location of C5-C8 nerve roots relative to surrounding sternocleidomastoid (SCM), middle scalene (MS) and anterior scalene (AS) musculature.

Discussion

Given the episodic nature of presenting symptoms, making a diagnosis of BRP becomes a challenge and symptoms are frequently attributed to much more common etiologies of pruritus.

The current conventional treatment options include over the counter oral and topical medications with no consensus reached regarding the best treatment approach.

It is unclear whether radiologic evaluation of the cervical spine is of value, typically reserved for patients with neurologic symptoms.

Conclusion

Interscalene nerve blocks may offer a permanent solution to those patients who have failed conservative treatment for BRP.

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